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THERE IS CLAIMED:

a 1. ^{AN} ~~A process for the production of an~~
a organic electrolyte electric cell with a unitary
a ~~structure comprising at least one pair of electrodes~~
comprising:

- a first electrode comprising the superposition of a first layer containing an electrochemically active material and a porous second layer of a polymeric material having a free face; and

- a second electrode comprising a porous layer having at least one free face and containing an electrochemically active material;

wherein said electrodes are assembled by adhesive bonding, bonding being carried out by coating an adhesive onto said free face of said porous layer of one of said two electrodes and then bringing said free face coated with a film of adhesive into contact with said free face of said porous layer of said other electrode to form an electrochemical couple.

a 2. The ^{cell} ~~process~~ claimed in claim 1 wherein said adhesive is a solution containing:

- a polymer with the same chemical formula as said polymer constituting said second porous layer of said first electrode;

- a solvent in which said polymer readily dissolves at the adhesive preparation temperature; and

- a non-solvent which is miscible with said solvent, which does not or only slightly dissolves said polymer at said adhesive preparation temperature and the proportion of which is insufficient to cause precipitation of said polymer.

a 3. The ^{cell} ~~process~~ claimed in claim 2 wherein said solvent has a boiling point in the range 40°C to 80°C and said non-solvent has a boiling point of more than 100°C.
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a 4. The ^{cell}~~process~~ claimed in claim 2 wherein the mass of said solvent represents 75% to 90% of the total mass of said solvent and said non-solvent.

a 5. The ^{cell}~~process~~ claimed in claim 2 wherein the mass of said polymer represents 10% to 20% of the mass of said adhesive solution.

a 6. The ^{cell}~~process~~ claimed in claim 2 wherein said adhesive is heated to a temperature at which said polymer/solvent/non-solvent mixture is stable and homogeneous during coating.

7. The process claimed in claim 2 wherein said polymer is selected from polyvinylidene fluoride (PVDF), polyvinyl chloride (PVC), polymethylmethacrylate, cellulose triacetate (CA), a polysulfone, a polyether, a polyolefin such as polyethylene (PE), polyethylene oxide (PEO), polypropylene (PP) and copolymers thereof.

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a' 8. The process claimed in claim 2 wherein said polymer is an alloy of polyvinylidene fluoride (PVDF) with a polymer selected from a polysulfone, polymethylmethacrylate, polyvinylpyrrolidone and copolymers of polyvinylidene fluoride and polytetrafluoroethylene (PTFE), polyvinylidene fluoride and propylene hexafluoride and polyvinyl acetate (PVAC) and polyvinyl alcohol (PVA).

9. The process claimed in claim 2 wherein said polymer is an alloy constituted by a polymer selected from polyurethanes, an acrylonitrile-butadiene copolymer, a styrene-butadiene-styrene copolymer, a styrene-isoprene-styrene copolymer, polyesters, amide block polyethers and a polymer selected from polyvinylidene fluoride and its copolymers, polyacrylonitrile, polymethylmethacrylate, polyvinylformal, polybutylmethacrylate and polyvinyl chloride.

a 10. The ^{cell}~~process~~ claimed in claim 7 wherein said polymer is polyvinylidene fluoride.

a 11. The ~~process~~^{cell} claimed in claim 10 wherein said solvent is selected from acetone and tetrahydrofuran.

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a2 12. The process claimed in claim 10 wherein said non-solvent is selected from butanol, propanol and ethylene glycol.

a 13. The ~~process~~^{cell} claimed in claim 2 wherein said electrochemical couple formed is rolled, dried for 10 minutes at a temperature of about 20°C and then vacuum dried for about 12 hours.

a 14. The ~~process~~^{cell} claimed in claim 1 wherein said adhesive is a paste constituted by said electrochemically active material of said porous layer of said second electrode, a polymer and a solvent which dissolves said polymer.

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a3 15. The process claimed in claim 14 wherein said polymer is selected from polytetrafluoroethylene, carboxymethylcellulose, hydroxypropylmethylcellulose, hydroxyethylcellulose, hydroxypropylcellulose, polyvinylidene fluoride and its copolymers, polyacrylonitrile, polyacrylic acid, polyacrylamide and mixtures thereof.

a 16. The ~~process~~^{cell} claimed in claim 14 wherein said solvent is selected from water and N-methylpyrrolidone.

a 17. The ~~process~~^{cell} claimed in claim 14 wherein said electrochemical couple formed is rolled then dried for 10 minutes at a temperature of about 80°C.

a 18. The ~~process~~^{cell} claimed in claim 1 wherein the thickness of said porous second layer of said first electrode is in the range 15 µm to 100 µm.

a 19. The ~~process~~^{cell} claimed in claim 1 wherein, when dry, said adhesive is a porous film with a thickness in the range 5 µm to 20 µm.

a 20. The ~~process~~^{cell} claimed in claim 1 wherein the thickness of said first layer of said first electrode and the thickness of said porous layer of said second electrode are in the range 100 µm to 160 µm.

a 21. The ^{cell}~~process~~ claimed in claim 1 wherein the porosity of said porous layers in each of said electrodes is in the range 35% to 40%.

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